The opinion in support of the decision being entered today was *not* written for publication and is *not* binding precedent of the Board.

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Ex parte TIMOTHY G. OFFERLE, CRAIG H. STEPHAN and GREGORY P. BROWN

Appeal 2007-0677
Application 10/708,677
Technology Center 3600

Decided: March 22, 2007

Before TERRY J. OWENS, STUART S. LEVY, and ROBERT E. NAPPI, *Administrative Patent Judges.*

NAPPI, *Administrative Patent Judge.*

DECISION ON APPEAL

This is a decision on appeal under 35 U.S.C. § 6(b) of the final rejection of claims 1 through 30. For the reasons stated *infra* we will not sustain the Examiner's rejection of these claims.

INVENTION

The invention is directed to a system to determine and predict the position of a trailer relative to a vehicle. The system then displays the trailer's current and predicted position to the vehicle's driver to assist in controlling the direction of the trailer relative to the vehicle. See paragraph 0008 of Appellants' specification. Claim 1 representative of the invention and reproduced below:

> 1. A method for use in a vehicle comprising;
> sensing a current position of a trailer relative to the vehicle;
> determining a vehicle steering wheel angle;
> determining a predicted position of the trailer based on the current position and the steering wheel angle; and
> displaying within the vehicle the current position and the predicted position of the trailer relative to the vehicle.

REFERENCES

The references relied upon by the Examiner are:

Yoshioka	US 5,461,357	Oct. 24, 1995
Gerum	US 5,747,683	May 05, 1998
Deng	US 6,292,094	Sep. 18, 2001
Mizusawa	US 2002/0145663 A1	Oct. 10, 2002
Hrazdera	US 6,704,637 B1	Mar. 09, 2004
		(Effectively filed Jun. 10, 2002)

REJECTION AT ISSUE

Claims 1 through 4, 11 through 27, 29 and 30 stand rejected under

35 U.S.C. § 103 (a) as being unpatentable over Deng or Gerum in view of Mizusawa. The Examiner's rejection is set forth on pages 3 and 4 of the Answer. Claims 5 through 10 and 18 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Deng or Gerum in view of Mizusawa and Hrazdera. The Examiner's rejection is set forth on pages 5 and 6 of the Answer. Claim 28 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Deng or Gerum in view of Mizusawa and Yoshioka. The Examiner's rejection is set forth on page 6 of the Answer. Throughout the opinion we make reference to the Brief and Reply Brief (received August 12, 2005 and August 1, 2006 respectively), and the Answer (mailed June 2, 2006) for the respective details thereof.

ISSUES

Appellants contend that the Examiner's rejection of independent claims 1, 12 and 21 under 35 U.S.C. § 103(a) is in error. Appellants argue that both Deng and Gerum teach systems which calculate the current position of the trailer but that they do not teach determining a predicted position of a trailer. Further, Appellants argue that in combination with Mizusawa, the references do not teach displaying both the current and predicted position of the trailer.

The Examiner asserts that the rejection is proper. The Examiner, on page 7 of the Answer, equates the "desired hitch angle" of Deng with the claimed predicted position. The Examiner also equates the determination of a jackknife condition in Gerum with the claimed predicted position.

Thus, the question before us is whether either Deng or Gerum in combination with Mizusawa teach or suggest determining a predicted position as claimed and displaying the predicted position of the trailer relative to the vehicle?

FINDINGS OF FACT.

Gerum teaches a system for stabilizing a vehicle with a trailer. See abstract. The system monitors several parameters of the vehicle such as steering angle, brake pressure and air suspension pressure. See column 5, ll. 41-55. These parameters are used as input to a model which estimates among other things the hitch angle and rate of change of hitch angle. See column 5, ll. 60-65. These estimates are then used when the vehicle is in a braking condition to individually adjust the braking force applied to the left or right side rear wheels of the vehicle. See abstract and column 10, ll. 18-33. By applying an unequal brake force, the system acts to stabilize the vehicle, reducing the chances of a jackknife or other uncontrolled vehicle conditions. See abstract. We do not find that the model determines a predicted position, but rather the current position. We do not find that Gerum teaches predicting a jackknife condition but rather creating a stabilizing effect assumedly to preclude a jackknife condition.

Deng teaches a system for assisting a driver backing up a vehicle which has four wheel steering and is towing a trailer.[1] See abstract. The system adjusts the rear wheel steering angle to guide the trailer to the

[1] In a four wheel steering system the rear wheels may turn either with or counter to the front wheels.

location selected by the driver. The driver identifies the intended position of the trailer to the system by positioning the steering wheel of the vehicle as if they were backing the vehicle up without a trailer.[2] The system monitors the steering wheel position and calculates the intended position. See column 2, l. 64 to column 3, l. 3. The system then calculates the proper angle for the rear wheels to steer the trailer to the intended position. If the rear wheels can be turned to this angle the driver continues to back up, steering as if there was no trailer and the system will adjust the rear wheels to locate the trailer. See column 3, lines 7-13. If the rear wheels can not be turned to this angle, the driver is instructed to counter steer and the system controls the steering of the rear wheels to position the trailer in the intended position. Column 3 ll. 13-22. Deng is silent as to whether the driver is advised of the systems' status visually or audibly, although the driver advisor, item 42 is depicted as a speaker.

Mizusawa teaches a system to assist a driver in backing up a vehicle to meet a trailer. See abstract. The system makes use of camera images which are enhanced and displayed to the driver. See paragraph 0016. The images present a view of the rear of the vehicle and include an indicator of where the hitch is on the vehicle and is used in aligning the hitches of the vehicle and trailer when coupling the two. See paragraph 0018.

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[2] When backing up with a trailer in a two wheel steering system the driver has to counter steer to guide the trailer, i.e. when backing up with a trailer you turn the steering wheel opposite the direction you would steer as if you did not have a trailer.

PRINCIPLES OF LAW

Office personnel must rely on Appellants' disclosure to properly determine the meaning of the terms used in the claims. *Markman v. Westview Instruments, Inc.*, 52 F3d 967, 980, 34 USPQ2d 1321, 1330 (Fed. Cir. 1995). "[I]nterpreting what is *meant* by a word *in* a claim 'is not to be confused with adding an extraneous limitation appearing in the specification, which is improper.'" (emphasis original) *In re Cruciferous Sprout Litigation,* 301 F.3d 1343, 1348, 64 USPQ2d 1202, 1205, (Fed. Cir. 2002) (citing *Intervet America Inc v. Kee-Vet Laboratories Inc.,* 12 USPQ2d 1474, 1476 (Fed. Cir. 1989). It is the burden of the Examiner to establish why one having ordinary skill in the art would have been led to the claimed invention by the express teachings or suggestions found in the prior art, or by the implications contained in such teachings or suggestions. *In re Sernaker*, 702 F.2d 989, 995, 217 USPQ 1, 6 (Fed. Cir. 1983).

ANALYSIS

Independent claim 1 recites "determining a predicted position of a trailer based upon the current position and the steering wheel alignment; and displaying within the vehicle, the current position and the predicted position of the trailer relative to the vehicle." Independent claim 12 includes similar limitations. Independent claim 21 recites "a controller coupled to the trailer position signal display, and steering wheel angle sensor, said controller displaying a predicted path of the trailer in response to the position signal." Thus, each of the independent claims recites

displaying a predicted position or path of the trailer and that the predicted position is calculated based upon the current position and wheel angle. The display's other predicted positions are shown in Appellants' figure 20 and discussed in paragraph 0124.

As discussed *supra* we find that Gerum teaches a system for stabilizing a vehicle with a trailer which uses a model of the vehicle dynamics. However, we do not find that Gerum teaches that the model determines a predicted position, but rather the current position. We find that Deng teaches a system to assist a driver backing up a vehicle with four wheel steering and a trailer. The system calculates the steering angles needed to place the trailer in an intended position. The intended position of the trailer is input to the system by the user's control of the steering wheel. While the system performs calculations to interpret the intended position from the user's control of the steering wheel, this is not a predicted position, but rather a position input by the user. Finally, we find that Mizusawa discloses a system to provide and display a rear view of the vehicle. We do not find that Mizusawa discloses calculating a predicted position. Thus, we do not find that Gerum, Deng, and Mizusawa determine a predicted position as recited in the claims, nor do we find that the combination of the references teach or suggest displaying a predicted position as claimed.

CONCLUSION

We consider the Examiner's rejection of claims 1 through 30 under 35 U.S.C. § 103(a) to be in error as we do not find that the combination of the combination of Deng or Gerum with Mizusawa teach or suggest the limitations in independent claims 1, 12, and 21. The Examiner has not asserted, nor do we find that Hrazdera or Yoshioka, the references applied against claims 5 through 10, 18 and 28, make up for the noted deficiencies in the rejection of independent claims 1, 12 and 21. Accordingly we will not sustain the Examiner's rejection of claims 35 U.S.C. § 103 (a) of claims 1 through 30.

ORDER

For the forgoing reasons, we will not sustain the Examiner's rejections, under 35 U.S.C. § 103. The decision of the Examiner is reversed.

REVERSED

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